REMARKS

GENERAL REMARKS

Claims 27-29 have been withdrawn, and claims 1-26 and 30 are currently pending in the instant patent application.

SECTION 103 REJECTIONS

Claims 1-26 and 30 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US 7,305,422) in view of Hayashi (US 5,881,378).

A. Claimed Invention

Independent claims 1, 14, and 30 are directed to a method, a device, and a system to receive a request to extract data from a single database table of a database. The single database table has a current version associated with a current schema and has a prior version associated with a prior schema. The current version is different from the prior version, and the current schema is different from the prior schema. The request is directed to the prior version of the single database table. As explicitly claimed, data is extracted from the single database table based on the prior schema associated with the prior version.

B. Wang

Wang discloses how an existing recovery mechanism can be used to store previous values of data items used in a computationally intensive calculation. *See* Abstract. As noted in Wang, an application performing a computationally intensive calculation may need to access prior states of the values involved in the calculations. Col. 1:64-65. Instead of transferring large amounts of data to the computationally intensive application and requiring the application to keep track of the prior states of the values, Wang discloses using a database server as the mechanism for deriving and accessing previous states of the values.

Thus, Wang's discussion of "versions" really refers to prior values of data items used in a calculation being performed by an application. The database server simply stores those prior values in an organized way so that the prior values can be accessed

for the application if it needs the prior values at some point during its calculations. Col. 2:6-15 & 21-28. To store the prior values, the database server generates rollback entries that reflect the previous values of a data item and appends successive rollback entries together to reflect the sequence of updates performed on the data item. In this way, the application can use select statements to access the rollback entries so the prior values can be used in the calculations. Col. 2:29-45.

C. Hayashi

Hayashi is directed to a "derived database processing system" in which a derived database is "a partial collection of components of [multiple] databases." Col. 1:14-19, 6:17-19 and Fig. 1 (element 18); see also Abstract. As its goal, Hayashi's derived database appears to provide access to multiple databases as if they were a single database. Col. 3:59-61, 6:59-61, 10:14-27, and 15:55-16:18. Hayashi provides several examples of this form of use, for example, at col. 7:25-63 and Fig. 2 (*access to independently developed databases*), col. 7:64-8:65 and Fig. 3 (*access to a division database and a central database*), col. 8:66-9:25 and Fig. 4 (*access to databases having the same schema structure but operated differently*), col. 9:26-53 and Fig. 5 (*access to private and shared databases*), col. 9:54-10:11 and Fig. 6 (*access to a test database and a production database*).

D. Analysis

As admitted in the Office Action, Wang does not teach current and prior schemas of a database table. *See* Action at pg. 3. In fact, Wang is silent about the schema or structure (*i.e.,* type and order of attributes) of a database table. In contrast to the characterization in the Action, Wang fails to teach how current and prior schemas may be involved in extracting data from a single database table. At most, Wang appears to disclose a mechanism for maintaining prior "values" of a data item used in a computationally intensive calculation. *See* col. 2:21-28; Table 2 at col. 6:24-39; and Fig. 3. These prior "values" are stored in an undo block (450) as undo records (472). Figs. 4A-4B & col. 5:49-56. When a prior "value" is needed, it can be obtained from the undo record in the undo block. *See* col. 6:48-64. Therefore, not only does Wang not deal with different schemas a single database table (instead dealing with prior "values" in a

calculation), but Wang does not even extract data from a single database table. Rather, Wang obtains prior "values" from an undo block and not from a subject table.

For its part, Hayashi fails to teach or suggest the limitations missing from Wang. Fundamentally, Hayashi fails to teach receiving a request to extract data from a single database table and actually extracting data from the single database table, as claimed and missing from Wang. In addition, Hayashi fails to teach or suggest extracting data from the single database table based on a prior schema associated with a prior version of the database table, as claimed and missing from Wang.

At most, Hayashi describes table schema, version, or definition information only in the context of determining whether a first or "new" definition is consistent with a second or "old" definition and, if such consistency is found, to replace the old definition with the new definition. *See* col. 16:53-17:9 and Fig. 11A; *See also,* col. 17:30-37 (*describing why a consistency check operation is useful*) and col. 20:59-21:9 (*describing a new definition operation in which only definition, not table data, is accessed and replaced*). In this regard, a "definition modification managing unit 71" in Hayashi merely manages old and new version definition information and the relation among them, and an "access selecting unit 77" merely allows before-modification (old version) or after-modification (new version) definition information to be selected when definition information is being accessed. Col. 16:53-62 and Fig. 11A & Col. 18:63-6, and Fig. 11A. Checking consistency between new and old definitions in Hayashi does not appear to teach or suggest extracting data from a single database table having multiple versions and schemas based on a prior schema as claimed.

To emphasize the fact that Hayashi fails to extract table data based on a prior schema of a prior version of a single database table (as claimed), Hayashi explicitly states that "access selecting unit 77 cannot be used by an application program which simultaneously accesses definition information comprising both new and old version definition information." Moreover, as Hayashi further states, the unit 77 "can be used for verification of the new version definition information during the operation using the old version definition information." Col. 18:63-19-5, Fig. 11A (emphasis added); *See also* Col. 19:40-20:8 and Figs. 12, 14A, 17A and 17B (*describing accessing table definition information but declaring that "this does not allow a new version to co-operate with an*

old version" – that is, data access operations use only the most recent consistent version of the table schema to retrieve or extract data from a table).

As noted above, Wang is utterly silent about different schemas of a single database table, and Wang obtains prior values of data items from an undo block that is separate from the table having current values for the data items. Although Hayashi discusses "schema," he does so in terms of different tables—not a single table. Additionally, Hayashi discusses differences in "schema" between tables only for determining the consistency between the two—not for actually extracting information from a single database table according to a prior schema. For at least these reasons, even if it were appropriate to combine Wang and Hayashi (which Assignee does not concede), Wang and Hayashi fail to teach each and every element recited in independent claims 1, 14 and 30.

Accordingly, claims 1, 14, and 30 and those depending therefrom are believed to be patentable over Wang and Hayashi, and Assignee respectfully requests allowance of these claims in the next paper from the Office.

CONCLUSIONS

No fees are believed due. The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application. Should any fees be due for any reason, the undersigned representative authorizes the Commissioner to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 501922, referencing 149-0170US.

+ + + + + + + + + +

  To facilitate the resolution of any issues or questions presented by this paper, Applicants respectfully request that the Examiner directly contact the undersigned by phone to further the discussion, reconsideration, and allowance of the claims.

Respectfully submitted,

/Sean McDermott/
Sean McDermott
Reg. No. 49,000

Submitted Electronically Via EFS Web
Wong, Cabello, Lutsch, Rutherford & Brucculeri, L.L.P.
Customer No. 29855
20333 SH 249, Suite 600
Houston, Texas 77070
Voice: 832-446-2400